receives a respective predefined partly constructed product as its input, the production line comprising:

a predetermined reflected light intensity spectrum for at least one stage representing the respective predefined part construction for the stage.

a reflected light intensity spectrum deriver located at said at least one stage operable to obtain reflected light intensity spectra of incoming partly constructed product, said intensity spectrum deriver comprising:

an illuminator for irradiating a part product at least one point thereof with a multiple wavelength radiation source.

an intensity detector for detecting intensities within reflections of said source from said point.

an analyzer operatively associated with said intensity detector for analyzing said intensities in terms of wavelength and converting said analyzed intensities spectrum into a frequency spectrum thereof, said analyzer comprising an orthogonal transform calculator for producing said frequency spectrum by orthogonal transformation of said analyzed intensity spectrum, thereby to reveal thickness information of individual layers, and

a layer property determiner for determining, from said orthogonal transformation of said frequency spectrum, layer properties of layers on said part product, and

a comparator, for comparing said obtained reflected light intensity spectra with said predetermined reflected light intensity spectrum, to determine whether layers of said incoming partly constructed products correspond with layers defined in said respective predefined part construction for the stage. --

Amend Claim 2 to read as follows:

--2 (Amended). A production line according to claim 1, further comprising a routing error indicator operatively associated with said comparator for indicating a routing error when said layers do not match. --

Amend Claim 5 to read as follows:

--5 (Amended). A production line according to claim 4, wherein each stage comprises a reflected light intensity spectrum deriver and a layer property determiner and has a predetermined intensity spectrum and predetermined layer properties. --

Amend Claim 6 to read as follows:

--6 (Amended). A production line according to claim 5, wherein said comparator is further operable to compare said obtained layer properties with layer properties of at least one other stage to reroute said product to said other stage if layers indicated in said spectra match. --

Claim 8 has been deleted.

Amend Claim 9 to read as follows:

--9 (Amended). A production line according to claim 1, wherein said property is one of a group comprising a thickness and a refractive index. --

Amend Claim 10 to read as follows:

--10 (Amended). A production line according to claim 1, wherein said part product includes at least one at least partly transparent layer and said reflections include reflections from an upper and a lower surface of said at least partly transparent layer. --

Amend Claim 11 to read as follows:

--11 (Amended). A production line according to claim 1, wherein said orthogonal transform calculator comprises a Fourier transform calculator for producing said frequency spectrum by Fourier transformation of said analyzed intensity spectrum. --

Amend Claim 12 to read as follows:

--12 (Amended). A tool guard for restricting input to a production tool for carrying out a stage in the production of a layered product, the tool guard comprising:

a predetermined intensity spectrum representing an expected part construction for the stage,

an intensity spectrum deriver located at said tool operable to obtain an intensity spectrum of an incoming partly constructed product, said intensity spectrum deriver comprising:

an illuminator for irradiating a part product at at least one point thereof with a multiple wavelength radiation source,

an intensity detector for detecting intensities within reflections of said source from said point,

an analyzer operatively associated with said intensity detector for analyzing said intensities in terms of wavelength and converting said analyzed intensities spectrum into a frequency spectrum thereof, said analyzer comprising an orthogonal transform calculator for producing said frequency spectrum by orthogonal transformation of said analyzed intensity spectrum, thereby to reveal thickness information of individual layers, and

a layer property determiner for determining, from said orthogonal transformation of said frequency spectrum, layer properties of layers on said part product, and

a comparator, for comparing said obtained intensity spectrum with said predetermined intensity spectrum, to determine whether layer properties of said incoming partly constructed product corresponds with layer properties of said respective predefined part construction for the stage. --

Amend Claim 13 to read as follows:

--13 (Amended). A tool guard according to claim 12, further comprising a routing error indicator operatively associated with said comparator for indicating a routing error when said layer properties do not match. --

Amend Claim 14 to read as follows:

--14 (Amended). A tool guard according to claim 13, comprising a production interruption mechanism operatively associated with said routing error indicator for interruption of operation of said tool in the event of indication of a routing error. --

Claim 16 has been deleted.

Amend Claim 17 to read as follows:

--17 (Amended).A tool guard according to claim 12, wherein said property is one of a group comprising a thickness and a refractive index. --

Amend Claim 18 to read as follows:

--18 (Amended).A tool guard according to claim 12, wherein said part product includes at least one at least partly transparent layer and said reflections include reflections from an upper and a lower surface of said at least partly transparent layer. --

Amend Claim 19 to read as follows:

--19 (Amended).A tool guard according to claim 12, wherein said orthogonal transform calculator comprises a Fourier transform calculator for producing said frequency spectrum by Fourier transform of said analyzed intensities. --

Amend Claim 20 to read as follows:

--20 (Amended). A production line router for routing intermediate inputs around a multiple stage production line, the intermediate inputs comprising substrates with at least one superimposed layer, the router comprising:

predetermined intensity spectra for each of a plurality of said stages representing a respective intermediate construction for the stage,

at least one intensity spectrum deriver located within said production line for obtaining intensity spectra of intermediate inputs, said intensity spectrum deriver comprising:

an illuminator for irradiating a part product at at least one point thereof with a multiple wavelength radiation source.

an intensity detector for detecting intensities within reflections of said source from said point.

an analyzer operatively associated with said intensity detector for analyzing said intensities in terms of wavelength and converting said analyzed intensities spectrum into a frequency spectrum thereof, said analyzer comprising an orthogonal transform calculator for producing said frequency spectrum by orthogonal transformation of said analyzed intensity spectrum, thereby to reveal thickness information of individual layers, and

a layer property determiner for determining, from said orthogonal transformation of said frequency spectrum, layer properties of layers on said part product, and

a comparator, for obtaining a closest match between layers defined in said obtained intensity spectrum and layers defined in any of said predetermined spectra, said router being operable to route said intermediate input to a stage corresponding to said closest matching spectrum. --

Amend Claim 22 to read as follows:

--22 (Amended). A production line router according to claim 21, wherein each stage comprises an intensity spectrum deriver and a layer property determiner and has a predetermined intensity spectrum and predetermined layer properties. --

Claim 24 has been deleted.

Amend Claim 25 to read as follows:

--25 (Amended). A production line router according to claim 20, wherein said property is one of a group comprising a thickness and a refractive index. --

Amend Claim 26 to read as follows:

--26 (Amended). A production line router according to claim 20, wherein said intermediate input includes at least one at least partly transparent layer and said reflections include reflections from an upper and a lower surface of said at least partly transparent layer. --

Amend Claim 27 to read as follows:

--27 (Amended). A production line according to claim 20, wherein said orthogonal transform calculator comprises a Fourier transform calculator for producing said spectrum by Fourier transform of said analyzed intensities. --

Amend Claim 28 to read as follows:

--28 (Amended). A wafer production history determiner for determining the production history of a semiconductor wafer product, the determiner comprising:

a plurality of predetermined intensity spectra for semiconductor wafer products having completed respective stages of a multiple stage semiconductor wafer production process,

an intensity spectrum deriver for obtaining an intensity spectrum of an incoming semiconductor wafer product said intensity spectrum deriver comprising:

an illuminator for irradiating a part product at at least one point thereof with a multiple wavelength radiation source,

an intensity detector for detecting intensities within reflections of said source from said point,

an analyzer operatively associated with said intensity detector for analyzing said intensities in terms of wavelength and converting said analyzed intensities spectrum into a frequency spectrum thereof, said analyzer comprising an orthogonal transform calculator for producing said frequency spectrum by orthogonal transformation of said analyzed intensity spectrum, thereby to reveal thickness information of individual layers, and

a layer property determiner for determining, from said orthogonal transformation of said frequency spectrum, layer properties of layers on said part product., and

a comparator, for comparing layers defined in said obtained intensity spectrum with layers defined in each of said predetermined intensity spectra, to determine a closest match between said obtained spectrum and one of said predetermined spectra, said determiner inferring said production history as including the respective completed stage corresponding to said closest match predetermined spectrum. --

Amend Claim 29 to read as follows:

--29 (Amended).The use of orthogonal transform processing on a spectrum obtained by reflecting multiple wavelength light from a plurality of points on a layered product, to determine layer thicknesses within said product, thereby to determine a production history of said layered product. --

Amend Claim 30 to read as follows:

--30 (Amended). In a production line having a plurality of successive stages for construction of a product comprising at least one at least semi-transparent layer on a substrate, and routers for transferring partly constructed product between the stages such that each stage receives a respective predefined partly constructed product as its input, and having a predetermined intensity spectrum associated with at least one stage representing the respective part construction for the stage, a method comprising:

obtaining intensity spectra of partly constructed products incoming to said stage, said obtaining comprising

irradiating a part product at least one point thereof with a multiple wavelength radiation source,

detecting intensities within reflections of said source from said point,

analyzing said intensities in terms of wavelength, thereby to produce a spectrum of intensities at respective wavelengths,

converting said spectrum of intensities into a frequency spectrum using orthogonal transformation of analyzed intensities, and

determining, from said orthogonal analysis of said frequency spectrum, layer properties of layers on said part product, and

comparing said layer properties with layer properties of said predetermined intensity spectrum, and thereby determining whether said incoming partly constructed

product corresponds with said respective predefined part construction for the respective stage. --

Amend Claim 31 to read as follows:

--31 (Amended). A method according to claim 30, further comprising indicating a routing error when said layer properties do not match. --

Amend Claim 34 to read as follows:

--34 (Amended). A method according to claim 33, comprising obtaining intensity spectra for incoming partly constructed products to each stage, each said stage having a predetermined intensity spectrum defining layer properties. --

Amend Claim 35 to read as follows:

--35 (Amended). A method according to claim 34, comprising comparing said obtained layer properties with predetermined layer properties of at least one other stage to reroute said product to said other stage if respective layer properties match. --

Claim 37 has been deleted.

Amend Claim 38 to read as follows:

--38 (Amended). A method according to claim 30, wherein said property is one of a group comprising a thickness and a refractive index. --

Amend Claim 39 to read as follows:

--39 (Amended). A method according to claim 30, wherein said part product includes at least one at least partly transparent layer and said reflections include reflections from an upper and a lower surface of said at least partly transparent layer. --

Amend Claim 40 to read as follows:

--40 (Amended). A production line according to claim 30, wherein said orthogonal analysis comprises Fourier analysis. --